

Visiting My Schoolyard Tree

Standards Addressed

Environmental Education Standards:

- A. Questions and Analysis: A.4.1, A.4.2, A.4.3, and A.4.4.
- B. Knowledge of Environmental Processes and Systems: B.4.4 and B.4.5.
- C. Environmental Issue Investigation Skills: C.4.1.

Key Concepts/Content

- 🌳 To increase the students' awareness of the role of trees in the landscape.
- 🌳 To identify the tree on or near school grounds.
- 🌳 To describe the tree using the senses.
- 🌳 To observe a single tree during various seasons.
- 🌳 To understand changes that occur over time.

Teacher Background

Mapping the school grounds and including the identification of trees on or near the school property will be a starting point for appreciating the trees in the landscape. Observations of a single tree will be the basis for expanding the view to the importance of forests. Become familiar with the area around the school before doing this activity. Completing many of the previous activities will assist students with concepts in this activity. Be sure to note the blackline masters that accompany this activity. They provide many details about the observations the students will be making during the activity.

Getting Ready

Discuss with students the changes that will happen during the seasons.

Explain to the students they will be going on a "visit" to a tree on or near the school grounds and will be keeping a journal of their activities during the school year.

Materials Needed ✦ Paper, pencil, clipboard, student journal sheets (see Appendix), camera, ruler, tape measure, meter stick

- Procedures**
1. Plan to visit a tree on or near the schoolyard during each quarter or each month of the school year.
 2. Prepare student journals that include student journal pages, activity sheets, and additional blank pages (see Appendix).
 3. Ask the students to make observations about their tree by completing the pages in their journal called: Observations, Measurements, Snow Has Fallen, and New Growth throughout the activity (sheets are included). The students will not complete all the pages each time they make observations; you decide which pages are needed for each observation. (Perhaps the students could decide this.)
 4. Ask the students to draw or photograph their tree each time they visit it. Be sure to take pictures of the students during each visit.
 5. After the first trip, use reference books when you return to the classroom to identify each tree.
 6. The activity sheets provide a guide for the students while making observations about the tree.
 7. Books such as *A Tree in a Forest* would make good reading materials to read aloud to the class at some time during this activity.

Evidence of Student Understanding

You will need to decide when to assess the activity. It is suggested you assess how the students understand change throughout the project and especially at the completion of the observations. You might want to ask the students to prepare for each other, their parents, or you, conceptually how their tree has changed during their observation period.

A rubric could be established to assess this knowledge and understanding.

**References/
Resources**

📖 *Forest Trees of Wisconsin* (included with this packet).

📖 *A Tree in a Forest*, Jan Thornhill, Simon & Schuster Books for Young Readers, 1992.

📖 Blackline Masters (included)

Visiting My Schoolyard Tree: Observations

Visiting My Schoolyard Tree: Measurements

Visiting My Schoolyard Tree: Snow Has Fallen

Visiting My Schoolyard Tree: New Growth



Visiting My Schoolyard Tree: Observations

Name _____

Season _____

Date _____

On your visit to a tree on or near your schoolyard, you will use your senses to observe your tree.

1. **Sight:** Look at your tree, around your tree, in your tree, and on the ground. In your journal, describe what you see.

2. **Touch:** Feel the bark on the trunk, the branches, and the leaves/needles. In your journal, describe what you feel.

3. **Smell:** Smell your tree, around your tree, and on the ground. In your journal, describe your tree by its smell.

4. **Sound:** Listen to your tree. In your journal, describe any sounds; be careful to describe only the sounds of your tree.

5. Do not taste your tree!!!

Collect a leaf on the ground that is from your tree or closely examine the needles. Make a leaf rubbing or drawing of the needles on the space below or on a blank page. Make a rubbing of the bark on the trunk of the tree.



Visiting My Schoolyard Tree: Measurements

Name _____

Season _____

Date _____

1. Measure the girth (circumference of your tree and record your answer in your journal).

Answer the following questions about your tree:

Use non-traditional units to measure the girth of your tree.

My tree is ____ hands around.

My tree is ____ footsteps around.

Are you still measuring your tree?

2. Measure your tree girth in metric units.

My tree is ____ centimeters around.

3. Measure the height of your tree.

Method One: Work in teams of two. Student one stands next to the tree to be measured. Student two walks away from the tree holding a ruler at full arm's length. The trick is to sight the bottom of the tree using the bottom of the ruler while also sighting the tree top through the top of the ruler. Now the ruler represents the total height of the tree and record at (a).

While keeping the ruler steady, have student two sight to the top of student one's head and record the measurement from the ruler at (b). Student one is now a ratio or part of the total height of the tree represented by the entire ruler.

- (a) Length of ruler _____ inches or _____ cm.
- (b) Top of head ruler reading _____ inches or _____ cm.
- (c) Divide (a) by (b) = (c) (your answer has **NO** units).
- (d) Measure student one's actual height and keep your units matched—inches or cm _____.
- (e) Multiply (d) x (c) = height of tree.

Method Two: Another ratio method is to compare the length of the tree shadows with student shadows.

- (a) Each student measures and records their height in inches _____ or centimeters _____.
- (b) Using a helper, measure and record the length of the student's shadow in inches _____ or centimeters _____.
- (c) Measure and record the length of the tree shadow in inches _____ or centimeters _____.
- (d) Divide (c) by (b) = (d).
- (e) Multiply (d) x (a) = tree height.

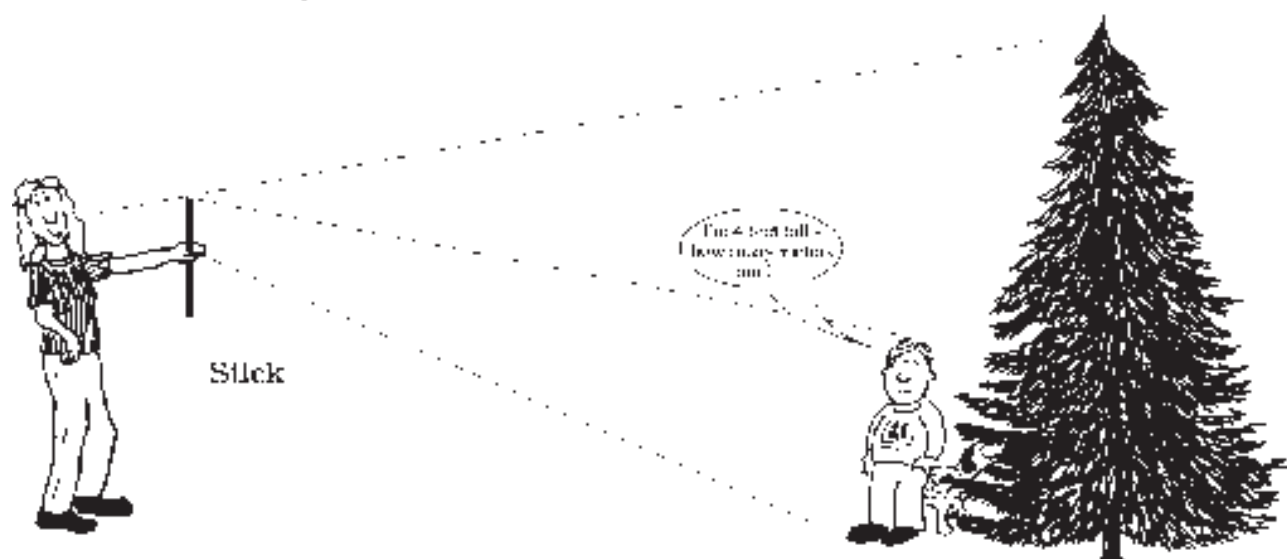
Foresters interpret the length of tree shadows from aerial photographs to estimate tree heights and many other attributes of the forest. Today, the forests are surveyed from aerial photographs and images from space. Maybe someday you will use images from space. Learn more about aerial photos on the DNR website: <http://www.dnr.state.wi.us/org/land/forestry/airphoto/index.htm>

4. Observations: Notice the color of the leaves/needles on your tree. Observe changes in color you are observing. What is happening to the tree? Are there any insects or animals or birds using the tree? What else can you observe about the tree? Describe how your tree looks this time of the year. What time of the year is it? Write your observations.

Activity Sheet

Visiting My Schoolyard Tree – Measurements of My Tree

Method One



Method Two





Visiting My Schoolyard Tree: Snow Has Fallen

Name _____

Season _____ **Date** _____

Observations

Notice if there are any footprints of people or animals under or near your tree. Describe the snow on the branches and against the trunk. If possible, measure the depth of the snow under the tree. Describe how the tree looks during this time of the year. What time of the year is it?



Visiting My Schoolyard Tree: New Growth

Name _____

Season _____

Date _____

Observations

Notice any new growth. Draw what a branch from your tree looks like now with budding leaves or growth of needles. Describe your tree in either words or even through poetry. What time of the year is it?

